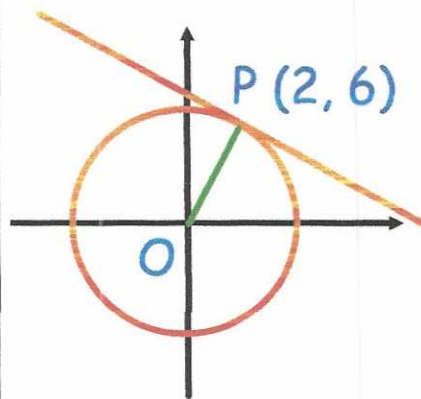


9th December



Corbettmaths

The diagram shows the circle $x^2 + y^2 = 40$ with a tangent at the point (2, 6)



Find the gradient of the tangent

$$-\frac{1}{3}$$

Find the equation of the tangent

$$y = -\frac{1}{3}x + c$$

$$6 = -\frac{1}{3}(2) + c$$

$$6 = -\frac{2}{3} + c$$

$$c = 6\frac{2}{3}$$

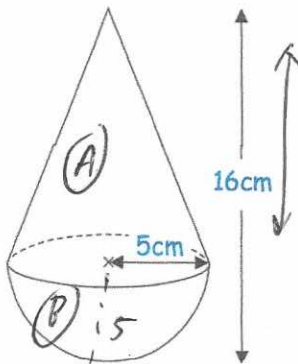
$$y = -\frac{1}{3}x + 6\frac{2}{3}$$

$$(A) \cdot \frac{1}{3} \times \pi \times 5^2 \times 11$$

$$= \frac{275}{3} \pi$$

$$(B) \frac{2}{3} \times \pi \times 5^3$$

$$= \frac{250}{3} \pi$$



Find the volume of the solid

$$175 \pi \text{ cm}^3$$

~~175 \pi \text{ cm}^3~~

$$\text{or } 549.8 \text{ cm}^3$$

Shown above is a solid made from a cone and a hemisphere.

The solid is made from a material with density 3.4 g/cm^3

$$d^m v$$

Find the mass of the solid

$$549.87 \dots \times 3.4 = 1869.24 \dots$$

$$1.869 \text{ kg}$$

$$f(x) = x^2 + 2$$

$$ff(3) = 123$$

$$g(x) = 5 - x$$

$$gg(3) = 3$$

$$f(3) = 11$$

$$fg(3) = 6$$

$$g(3) = 2$$

$$gf(3) = -6$$

Arrange in order, smallest to largest

$$fg(3) \quad gf(3) \quad ff(3) \quad gg(3)$$

$$gf(3), gg(3), fg(3), ff(3)$$